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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Stephen F. Bush et al.

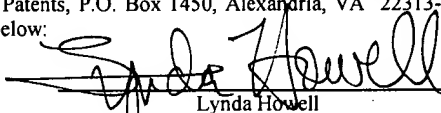
Serial No.: 09/697,562

Filed: October 26, 2000

For: COMMUNICATIONS NETWORK  
FOR DYNAMIC  
REPRIORITIZATION

§  
§ Group Art Unit: 2155  
§  
§  
§ Examiner: Philip B. Tran  
§  
§  
§ Atty. Docket: RD27644-2/YOD  
§ GERD:0239  
§

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Alexandria, VA 22313-1450

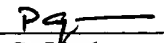
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February 8, 2006 Date	 Lynda Howell

**RESPONSE TO NOTICE OF NON-COMPLIANT  
APPEAL BRIEF AND AMENDMENT**

In response to the Notice of Non-Compliant Appeal Brief mailed on January 9, 2006, Applicants resubmit herewith the Appeal Brief which now contains an accurate listing of the claims. Applicants note that claim 5 had been amended by the Response to Office Action filed on August 11, 2004 (a copy is enclosed for the Examiner's convenience). Claim 5 should therefore depend from claim 4.

Respectfully submitted,

Date: 2/8/2006

  
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February 8, 2006

Date

Lynda Howell

**APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.37  
AND  
REPLY TO THE NOTICE OF NON-COMPLIANT APPEAL BRIEF**

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on June 1, 2005, and received by the Patent Office on June 7, 2005, and in Reply to the Notice of Non-Compliant Appeal Brief mailed on January 9, 2006..

The Commissioner is authorized to charge the requisite fee of \$500.00, and any additional fees which may be necessary to advance prosecution of the present application, to Account No. 07-0868, Order No. RD27644-2/YOD (GERD:0239).

Appellants hereby request a two (2) month extension in the statutory period for submission of the Appeal Brief, from August 7, 2005 to October 7, 2005, in accordance with 37 C.F.R. § 1.136. The Commissioner is authorized to charge the requisite fee of \$450.00, and any other fee that may be required, to Deposit Account No. 07-0868; Order No. RD27644-2/YOD (GERD:0239).

1. **REAL PARTY IN INTEREST**

The real party in interest is General Electric Company, the Assignee of the above-referenced application by virtue of the Assignment to General Electric Company by Stephen Bush recorded at reel 011271, frame 0101, and dated October 26, 2000. Accordingly, General Electric Company will be directly affected by the Board's decision in this Appeal.

2. **RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellants' legal representative in this Appeal.

3. **STATUS OF CLAIMS**

Claims 1-14 are currently pending, are currently under final rejection and, thus, are the subject of this Appeal.

4. **STATUS OF AMENDMENTS**

No amendments have been made since the Final Office Action filed on March 4, 2005.

5. **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention relates generally to the field active network management. *See* Application, page 1, line 7. More particularly, in certain embodiments, the invention relates to active networks having at least one node capable of being programmed to dynamically adjust the individual priorities of messages in queue at that node.

Traditional methods of message prioritization are proving inadequate to satisfy the data communication demands of many modern warfare and other demanding and dynamic scenarios. A further complication in such situations is introduced by the requirement that the data communications network must degrade *gracefully* (i.e., not

abruptly) if the network suffers occasional and cumulative damage incident to active hostilities of other unavoidable occurrences. The combination of increasing data demands and degraded network throughput capacity constitute motivation for devising a new data communications architecture and concomitant operating procedures for the following two reasons:

First, various classes of data messages have value, or utility, that changes with time. In situations where capacity becomes stressed or degraded to the point that the expected stay of a message in queue is significant compared to the time scale of its value dynamics, there is a need to consider reprioritization. Further, the value, or utility, of a message is often not intrinsic but rather depends upon other messages.

Secondly, data communication cannot be practiced by itself, in a vacuum so to speak. Rather, it must be crafted as a function of a coequal system with computation. Since the two are often inextricably linked, optimization must involve synergy through their linkage.

The Application is directed to improving the shortcomings of traditional communications systems in dynamic and demanding situations by providing a novel scheme for reprioritization of messages.

The Application contains three independent claims, namely, claims 1, 4 and 9, all of which are the subject of this Appeal. The subject matter of these claims is summarized below.

With regard to the aspect of the invention set forth in independent claim 1, discussions of the recited features of claim 1 can be found at least in the below cited locations of the specification and drawings. By way of example, an embodiment in accordance with the present invention relates to a communications network (e.g., 100)

comprising at least one source unit (e.g., 120) configured to generate messages for relay. The communications network (e.g., 100) comprises a smart node (e.g., 110) capable of storing programming instructions, receiving messages for relay from the source unit, determining at least a merit value for the received messages, dynamically reprioritizing the received messages for relay based upon the merit value, and transmitting the reprioritized received messages. The network (e.g., 100) further includes at least one portal node (e.g., 150) adapted to receive the reprioritized received messages transmitted from the smart node. *See, e.g., id* at page 3, lines 19-25 and page 4, lines 1-6; *see also* FIG. 1.

With regard to the aspect of the invention set forth in independent claim 4, discussions of the recited features of claim 4 can be found at least in the below cited locations of the specification and drawings. By way of example, an embodiment in accordance with the present invention relates to a communications network (e.g., 100) comprising at least one source unit (e.g., 120) configured to generate messages for relay and a smart node (e.g., 110) capable of receiving programming instructions, storing the programming instructions, receiving messages for relay from the source unit, storing the received messages for relay in a queue, determining at least a merit value for the received messages, and dynamically reprioritizing the received messages for relay in the queue based upon the merit value. The network (e.g., 100) further includes at least one portal node (e.g., 150) adapted to receive the retransmitted received messages from the at least one smart node for relay and at least one communications node (e.g., 160) adapted to send the programming instructions to the smart node. *See, e.g., id* at page 3, lines 19-25 and page 4, lines 1-6; *see also* FIG. 1.

With regard to the aspect of the invention set forth in independent claim 9, discussions of the recited features of claim 9 can be found at least in the below cited locations of the specification and drawings. By way of example, an embodiment in accordance with the present invention relates to a method for dynamic reprioritizing

messages. The method comprises receiving messages from a source unit (e.g., 120), storing the received messages in a buffer unit and determining a merit value for the received messages. The method further includes reprioritizing the received messages based upon the merit value and transmitting the reprioritized received messages.

Each of these claims recites elements that are clearly different and distinguishable from the teachings of the prior art, as discussed below.

6. **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**First Ground of Rejection for Review on Appeal:**

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claim 10 under 35 U.S.C. § 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter.

**Second Ground of Rejection for Review on Appeal:**

Appellants respectfully urge the Board to review and reverse the Examiner's second ground of rejection in which the Examiner rejected claims 1-6, 9, 11-14 under 35 U.S.C. § 102 (e) as being anticipated by U.S. Patent No. 6, 570, 876 (hereinafter, "Aimoto").

**Third Ground of Rejection for Review on Appeal:**

Appellants respectfully urge the Board to review and reverse the Examiner's third ground of rejection in which the Examiner rejected claims 7, 8 and 10 under 35 U.S.C. § 103 (a) as being unpatentable over Aimoto in view of U.S. Patent No. 6, 324, 570 (hereinafter, "Tonchev").

7. **ARGUMENT**

As discussed in detail below, the Examiner has improperly rejected the pending claims. Further, the Examiner has misapplied long-standing and binding legal precedents and principles in rejecting the claims under Sections 112, 102 and 103. Accordingly, Appellants respectfully request full and favorable consideration by the Board, as Appellants strongly believe that claims 1-14 are currently in condition for allowance.

**First Ground of Rejection for Review on Appeal:**

As noted above, Appellants had submitted claim amendments after the Final Office Action that resolve the rejections under 35 U.S.C. §112. Accordingly, Appellants request that the Board instruct the Examiner to enter the amendments, and reverse the rejection under Section 112.

**Second Ground of Rejection for Review on Appeal:**

**Claim 1 and the claims depending therefrom**

Claim 1 recites, *inter alia*, a communications network that includes at least one source unit configured to generate messages for relay, and a “smart node”. The node is capable of storing programming instructions, receiving messages for relay from the source unit, determining at least a merit value for the messages, dynamically reprioritizing the received messages based on the merit value and transmitting the reprioritized received messages. The communications network also includes at least one portal node adapted to receive the reprioritized received messages transmitted from the smart node.

The Examiner based the rejection on a comparison of the communications network in the present application with the packet switching network disclosed by Aimoto. Aimoto does not teach the communications network recited in claim 1 for at least the reasons summarized below.

First, the merit value recited in claim 1 is different from the priority value disclosed by Aimoto. In the claimed system, the communications network is configured to receive messages for relay from the source unit. The communications network then determines a merit value for each of the received messages and dynamically reprioritizes the received messages based on the determined merit values. The merit value, in the present application, is defined as being inversely proportional to the position dilution of precision (PDOP). PDOP is further defined as the calculus of choice for comparing the relative merits of individual position estimates of individual target location estimates.

Appellants wish to highlight that the present application, and particularly claim 1, relates to active network management. As will be appreciated by a person of ordinary skill in the art, in dynamically changing scenarios, target locations are not always stationary. Because the target locations change with time, it is of significance that decisions for locating any such target have to be made taking into account the location of the movable target.

The network of claim 1, then, determines a merit value dynamically, i.e., taking into account the changing coordinates of a moving target. It must be noted that the smart node continuously sends information about the target location and that the communications network continuously determines the merit value for each message received from the smart node.

Sections (*e.g.*, at page 4, line 25 through page 5, line 16) in the present application that relate specifically to the subject matter recited in claim 1 describe this operation as follows:

In this example, the target locations are estimated and a directed energy (DE) weapon is issued against them. The probability that the DE weapon will be effective on any particular firing is a strong function of the merit of the individual target location estimate. The greater the volume



of uncertainty within which the target is to be found, the greater the number of weapon commitments, or, equivalently, DE firings, is necessary to neutralize that target. The number of targets in a real situation may be quite large and the number of objects in the target field very large due to shroud components, tank fragmentation and so on as taught by E. W. Reed, E. C. Henry, and A. Crosby in their article "THAAD System Loading Capacity Evaluation in Anticipated Tactical Field Environments" published in the Proceedings of Radar 97, 1997, pp. 352-355, and by D. E. Mosher in his article "The Grand Plans" published in IEEE Spectrum, September 1997, pp. 28-39.

The calculus of choice for comparing the relative merits of individual target location estimates is the Position Dilution of Precision, or PDOP. The PDOP for an individual target is computed by taking the square root of the trace of the matrix  $(H^T H)^{-1}$  where  $H$  is a matrix of the direction cosines of an individual target measured from the sensors and T signifies transpose. For the instant example,

$$H = \begin{pmatrix} a_{x,1} & a_{y,1} & a_{z,1} \\ a_{x,2} & a_{y,2} & a_{z,2} \\ \vdots & \vdots & \vdots \\ a_{x,S} & a_{y,S} & a_{z,S} \end{pmatrix} \quad \text{where } (a_{x,i}, a_{y,i}, a_{z,i}) \text{ are the}$$

direction cosines of the target measured from sensor . The smaller the value of the PDOP for a particular set of sensors and particular target, the higher the merit of the particular target location estimate. Merit may thus be defined as 1/PDOP. At a minimum, three sensors are required to triangulate a target based on its measured direction cosines.

Aimoto, on the other hand, discloses a packet switch that receives the variable length packets. The packet switch is further configured to control transmission of the packets *according to priority already contained in the packets*. Aimoto specifically discloses that the packets *already contain priority information* before the packet switch receives them. *See*, Aimoto, col. 8, lines 25-38. Further, Aimoto discloses that it is only

the packet priority information contained in the incoming packets that determines the processing priority of the packets:

A packet 30 comprises a header portion 31 and a data portion 32. The header portion 31 includes packet priority information 33, a service request 34, protocol information 35, a source address 36, and a destination address 37. The packet priority information 33 indicates the processing priority of the packet. The service request 34 indicates the information of a service requested by the packet, for example, a request for reliability and high speed performance. These items are equivalent to the priority (0 to 2nd bits), the low delay request (3rd bit), the high through-put request (4th bit), and the high reliability information (5th bit) of the TOS (Type Of Service) field defined in the header of each IP packet used for the Internet.

Aimoto, col. 8, lines 25-38.

Appellants respectfully submit that the packet switch disclosed by Aimoto is inherently different from the communications network recited by claim 1 because the claimed smart node determines the merit value after receipt of the messages from the source (in the claim terms, “for said received messages”), and dynamically reprioritizes the messages based on the determined merit value. This determining of a merit value, and subsequent reprioritization is simply not taught by Aimoto.

Appellants therefore submit that Aimoto cannot anticipate claim 1, and respectfully requests that the rejection of claim 1 and the claims depending therefrom be reversed by the Board.

**Claims 4 and 9, and the claims depending therefrom**

Claims 4 and 9 (as a method) each recite, in generally similar language, same merit value determination and reprioritization as claim 1 discussed above. Appellants respectfully submit that for the same reasons set forth above with regard to independent claim 1, Aimoto simply cannot anticipate claim 4 or claim 9. Therefore, Appellants

respectfully submit that independent claims 4 and 9, and the claims depending therefrom are allowable and request the Board to reverse their rejection.

**Third Ground of Rejection for Review on Appeal:**

Appellants first note that Tonchev does not describe or even suggest determination of a merit value or reprioritization based upon such a value, and so cannot obviate the deficiencies of Aimoto discussed above. Moreover, claims 7, 8 and 10 each depend directly or indirectly from an independent claim that is clearly allowable over Aimoto, even in combination with Tonchev, for the reasons summarized above. Therefore, Appellants respectfully submit that claims 7, 8 and 10 are allowable in view of such dependency as well as for the subject matter they separately recite, in combination with the subject matter of their respective base claims. Appellants therefore respectfully request that the Board reverse the rejection of these claims under 35 U.S.C. §103(a).

**Conclusion**

Appellants respectfully submit that all pending claims are in condition for allowance. However, if the Examiner or Board wishes to resolve any other issues by way of a telephone conference, the Examiner or Board is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: \_\_\_\_\_

\_\_\_\_\_  
Patrick S. Yoder  
Reg. No. 37,479  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289  
(281) 970-4545

8. **APPENDIX OF CLAIMS ON APPEAL**

**Listing of Claims:**

1. (previously presented) A communications network, comprising:  
at least one source unit configured to generate messages for relay;  
a smart node capable of storing programming instructions, receiving messages for relay from said source unit, determining at least a merit value for said received messages, dynamically reprioritizing the received messages for relay based upon said merit value, and transmitting the reprioritized received messages; and  
at least one portal node adapted to receive said reprioritized received messages transmitted from said smart node.
2. (previously presented) The communications network as specified in claim 1, wherein said smart node comprises an electronic computer for executing said programming instructions.
3. (previously presented) The communications network of claim 1, wherein said programming instructions comprise active messages.
4. (previously presented) A communications network, comprising:  
at least one source unit configured to generate messages for relay;  
a smart node capable of receiving programming instructions, storing said programming instructions, receiving messages for relay from said source unit, storing the received messages for relay in a queue, determining at least a merit value for said received messages, and dynamically reprioritizing the received messages for relay in said queue based upon said merit value;  
at least one portal node adapted to receive said retransmitted received messages from said at least one smart node for relay; and

at least one communications node adapted to send said programming instructions to said smart node.

5. (previously presented) The communications network of claim 4, wherein said smart node comprises:

a message storage queue;

a transmitter;

a receiver;

a queue controller for writing messages received at said smart node into said message storage queue and for removing messages from said message storage queue for relay transmission by said transmitter; and

a dynamic reprioritization controller for specifying an order of transmission of said removed messages for relay transmission by said transmitter.

6. (previously presented) The communications network of claim 5, including at least one receiver for receiving said messages for relay from said source unit.

7. (previously presented) The communications network of claim 1, wherein said merit value for said received messages is determined heuristically.

8. (previously presented) The communications network of claim 4, wherein said merit value for said received messages is determined heuristically.

9. (previously presented) A method for dynamic reprioritizing messages, comprising:

receiving messages from a source unit;

storing said received messages in a buffer unit;

determining a merit value for said received messages;  
reprioritizing said received messages based upon said merit value; and  
transmitting the reprioritized received messages.

10. (previously presented) The method of claim 9, wherein said merit value for said received messages may be determined heuristically.

11. (previously presented) The method of claim 9, wherein said received messages are stored in a queue.

12. (previously presented) The method of claim 9, wherein a smart node reprioritizes said received messages.

13. (previously presented) The method of claim 12, wherein said smart node transmits said reprioritized received messages.

14. (previously presented) The method of claim 12, wherein said smart node receives programmable instructions from a communication node.

9. **APPENDIX OF EVIDENCE**

None.

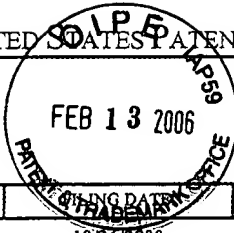
10. **APPENDIX OF RELATED PROCEEDINGS**

None.





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APPLICATION NO.	FILED DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,562	10/26/2000	Stephen Francis Bush	BB1165 US NA	3393

6147 7590 01/09/2006

GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
PATENT DOCKET RM. BLDG. K1-4A59  
NISKAYUNA, NY 12309

EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED: 01/09/2006

RD 27644-2

Please find below and/or attached an Office communication concerning this application or proceeding.

*Non-Compliant Appeal Brief*  
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FOR 2/9/2006

BY 1/12

CHEC'D BY KH 1/19

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JAN 19 2006

Fletcher Yoder

**Notification of Non-Compliant Appeal Brief  
(37 CFR 41.37)**

Application No.

09/697,562

Applicant(s)

BUSH ET AL.

Examiner

Philip B. Tran

Art Unit

2155

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

The Appeal Brief filed on 14 October 2005 is defective for failure to comply with one or more provisions of 37 CFR 41.37.

To avoid dismissal of the appeal, applicant must file an amended brief or other appropriate correction (see MPEP 1205.03) within **ONE MONTH or THIRTY DAYS** from the mailing date of this Notification, whichever is longer.  
**EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136.**

1. ☐ The brief does not contain the items required under 37 CFR 41.37(c), or the items are not under the proper heading or in the proper order.
2. ☐ The brief does not contain a statement of the status of all claims, (e.g., rejected, allowed, withdrawn, objected to, canceled), or does not identify the appealed claims (37 CFR 41.37(c)(1)(iii)).
3. ☐ At least one amendment has been filed subsequent to the final rejection, and the brief does not contain a statement of the status of each such amendment (37 CFR 41.37(c)(1)(iv)).
4. ☐ (a) The brief does not contain a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings, if any, by reference characters; and/or (b) the brief fails to: (1) identify, for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function under 35 U.S.C. 112, sixth paragraph, and/or (2) set forth the structure, material, or acts described in the specification as corresponding to each claimed function with reference to the specification by page and line number, and to the drawings, if any, by reference characters (37 CFR 41.37(c)(1)(v)).
5. ☐ The brief does not contain a concise statement of each ground of rejection presented for review (37 CFR 41.37(c)(1)(vi)).
6. ☐ The brief does not present an argument under a separate heading for each ground of rejection on appeal (37 CFR 41.37(c)(1)(vii)).
7. ☒ The brief does not contain a correct copy of the appealed claims as an appendix thereto (37 CFR 41.37(c)(1)(viii)).
8. ☐ The brief does not contain copies of the evidence submitted under 37 CFR 1.130, 1.131, or 1.132 or of any other evidence entered by the examiner and **relied upon by appellant in the appeal**, along with a statement setting forth where in the record that evidence was entered by the examiner, as an appendix thereto (37 CFR 41.37(c)(1)(ix)).
9. ☐ The brief does not contain copies of the decisions rendered by a court or the Board in the proceeding identified in the Related Appeals and Interferences section of the brief as an appendix thereto (37 CFR 41.37(c)(1)(x)).
10. ☒ Other (including any explanation in support of the above items):

List of claims in an appendix of the brief should include claims presented before final office action.

*Philip Tran*  
PRIMARY EXAMINER

Please indicate receipt of  
the below-identified paper:

☐ New Application    ☐ Specification: \_\_\_\_\_ Pages: \_\_\_\_\_ Drawings: \_\_\_\_\_ Sheets: \_\_\_\_\_  
☐ Continuation    ☐ Divisional    ☐ CIP    ☐ CPA  
☒ Response to Office Action dated May 12, 2004    ☐ Final Rejection  
☐ Other Replacement drawings (5 sheets)

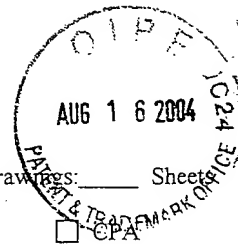
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Identification of Application:

Serial No. 09/697.562  
Title COMMUNICATIONS NETWORK FOR DYNAMIC  
REPRIORITIZATION

Applicant Stephen Francis Bush et al.  
Client GE Global Research  
File No. GERD:0239/RD27644-2    Attorney YOD  
Mailed 08/11/04    Filed \_\_\_\_\_    Due Date 08/12/04

COURTESY COPY SHOWING  
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Serial No.: 09/697,562

Filed: October 26, 2000

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Group Art Unit: 2155

Examiner: Tran, Philip B.

Atty. Docket: RD27644-2/YOD  
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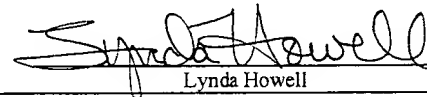
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08/11/04

Date

  
Lynda Howell

**AMENDMENT AND RESPONSE TO  
OFFICE ACTION MAILED MAY 12, 2004**

This is in response to the Office Action mailed on May 12, 2004.

**IN THE SPECIFICATION**

Please replace the drawings originally filed in the application with the formal drawings appended to this response.

**IN THE CLAIMS**

Please amend the claims as follows:

1. (currently amended) A communications network, comprising:  
at least one source unit (~~120, 121, 122~~) configured to generate messages for relay;  
a smart node (~~110~~) capable of storing programming instructions, receiving messages for relay from said source unit, determining at least a merit value for said received messages, dynamically reprioritizing the received messages for relay based upon said merit value, and transmitting the reprioritized received messages; and  
at least one portal node (~~150~~) adapted to receive said reprioritized received messages transmitted from said smart node.
2. (currently amended) The communications network as specified in claim 1, wherein said smart node comprises an electronic computer for executing said programming instructions.
3. (currently amended) The communications network of claim 1, wherein said programming instructions comprise active messages.
4. (currently amended) A communications network, (~~100~~) comprising:  
at least one source unit (~~120, 121, 122~~) configured to generate messages for relay;  
a smart node (~~110~~) capable of receiving programming instructions, storing said programming instructions, receiving messages for relay from said source unit, storing the received messages for relay in a queue, determining at least a merit value for said received messages, and dynamically reprioritizing the received messages for relay in said queue based upon said merit value;  
at least one portal node (~~150~~) adapted to receive said retransmitted received messages from said at least one smart node for relay; and

at least one communications node (160) adapted to send said programming instructions to said smart node.

5. (currently amended) The communications network of claim 14, wherein said smart ~~network~~-node comprises:

a message storage queue (280);

a transmitter (250);

a receiver (260);

a queue controller (270) for writing messages received at said smart node into said message storage queue and for removing messages from said message storage queue for relay transmission by said transmitter; and

a dynamic reprioritization controller (290) for specifying an order of transmission of said removed messages for relay transmission by said transmitter (250).

6 (currently amended) The communications network of claim 5, including at least one receiver (~~220, 221, 222~~) for receiving said messages for relay from said source unit.

7. (new) The communications network of claim 1, wherein said merit value for said received messages is determined heuristically.

8. (new) The communications network of claim 4, wherein said merit value for said received messages is determined heuristically.

9. (new) A method for dynamic reprioritizing messages, comprising:  
receiving messages from a source unit;  
storing said received messages in a buffer unit;  
determining a merit value for said received messages;

reprioritizing said received messages based upon said merit value; and  
transmitting the reprioritized received messages.

10. (new) The method of claim 9, wherein said merit value for said received messages may be determined heuristically.

11. (new) The method of claim 9, wherein said received messages are stored in a queue.

12. (new) The method of claim 9, wherein a smart node reprioritizes said received messages.

13. (new) The method of claim 12, wherein said smart node transmits said reprioritized received messages.

14. (new) The method of claim 12, wherein said smart node receives programmable instructions from a communication node.



### **REMARKS**

In the Office Action, claims 1-6 were rejected and the drawings were objected to. By the present Response, claims 1-6 are amended, new claims 7-14 are added, and new formal drawings are appended. Upon entry of the amendments, claims 1-14 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

#### **Objections to the drawings**

Although the Examiner did not formally mention deficiencies in the drawings as filed, the Notice from the Draftsperson indicated that replacement drawings were required. By the present response, such replacement drawings are submitted. No new matter has been added. Approval of the replacement drawings is requested.

#### **Rejections Under 35 U.S.C. § 102**

Claims 1-6 were rejected under 35 U.S.C. § 102(e) as being anticipated by Aimoto, U.S. Patent No. 6,570,876. Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. The Applicants respectfully assert that the present invention, as claimed in amended independent claims 1, and 4 is patentable over the Aimoto reference. The Aimoto reference does not disclose each element of the present invention as claimed in independent claims 1, and 4.

Based on the Examiner's analysis, the claimed smart node of the present application would correspond to the switch (1) of the Aimoto reference. The referenced switch (1) of the Aimoto reference may be capable of receiving packets incoming from the network by the packet receiving unit, storing packets in buffer memory by the relaying priority control unit, and transferring packets to the packet relaying unit according to priority based on the header information of the received messages. However, as claimed, the smart node of the present application is capable of storing programming instructions, receiving messages for relay from a source unit, determining at least a merit value and

dynamically reprioritizing said received messages based on said merit value for relay and transmitting the reprioritized received messages.

At the very least, Aimoto completely fails to provide an enabling disclosure on these point capable of supporting a *prima facie* case of anticipation. The reference does not disclose or even suggest actual dynamic reprioritization. Rather, messages are simply prioritized in the Aimoto system. Similarly, Aimoto does not perform any operation similar to determining a merit value as claimed. Accordingly, any prioritizing performed by Aimoto cannot be based on any such value.

Therefore, for at least this reason, the present invention, as claimed in independent claims 1 and 4 is not anticipated by the Aimoto reference. Claims 2, 3, 5, and 6 depend directly or indirectly from claim 1 and claim 4. Accordingly, the Applicants submit that claims 2, 3, 5, and 6 are allowable by virtue of their dependency from the allowable base claims, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejections of claims 1-6 under 35 U.S.C. §102(e) be withdrawn.

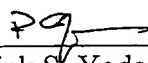
New independent claim 7 recites a method that includes steps similar to the functions enumerated for the smart node of claim 1. As noted above, Aimoto neither discloses nor suggests steps such as determining a merit value or reprioritizing messages based upon such a value. Accordingly, claim 7 and the claims depending therefrom are believed to be clearly patentable over Aimoto. Their consideration and allowance are respectfully requested.

**Conclusion**

In view of the remarks and amendments set forth above, the Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: August 11, 2004

  
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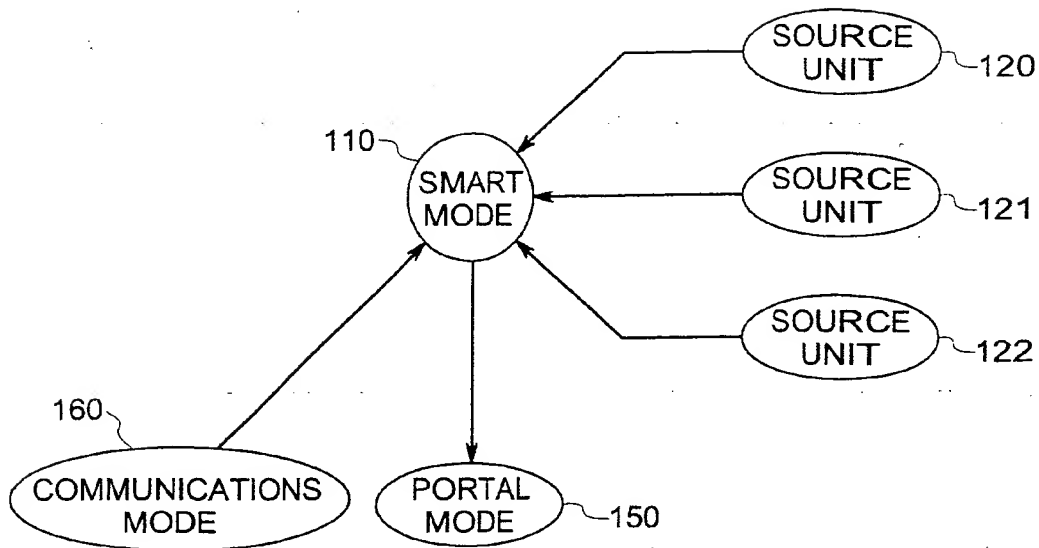


FIG. 1

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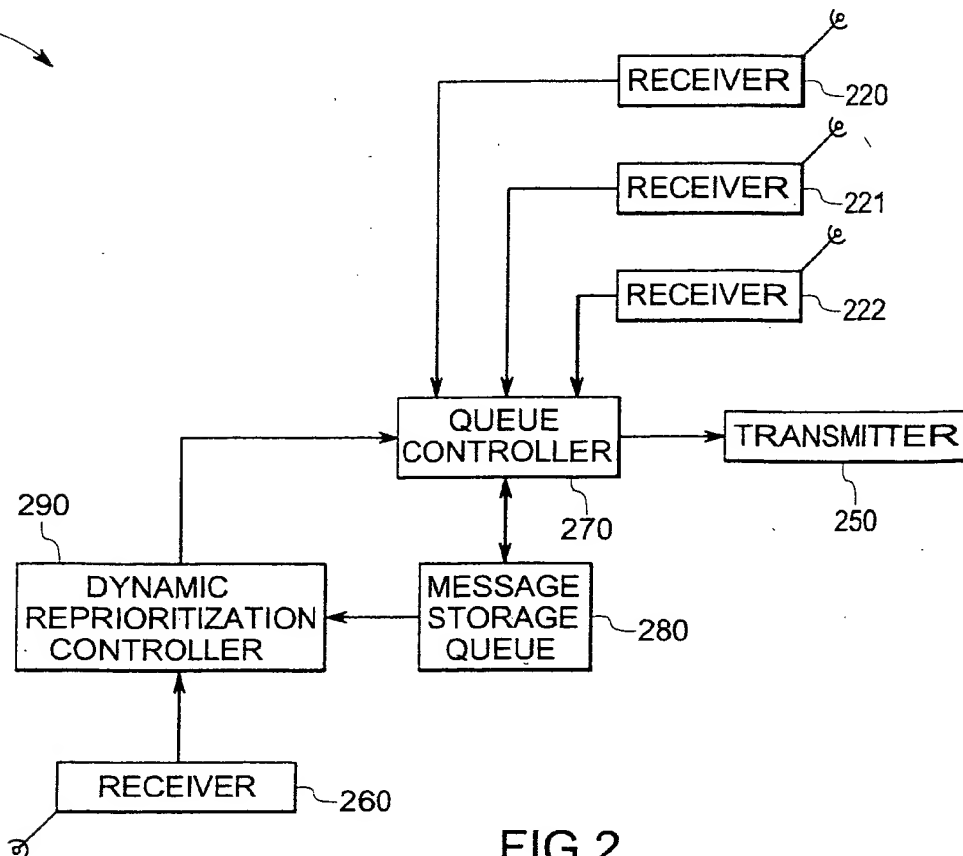


FIG. 2

2/5

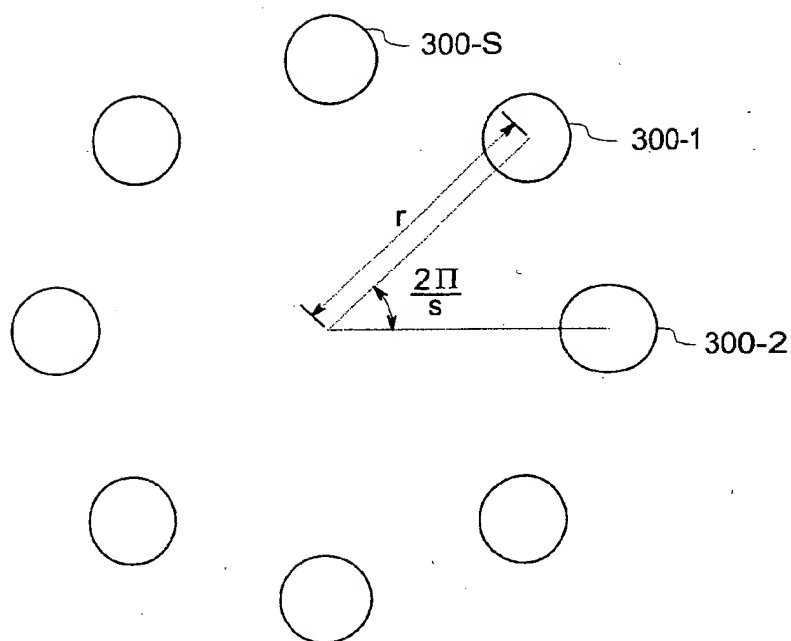


FIG.3

3/5

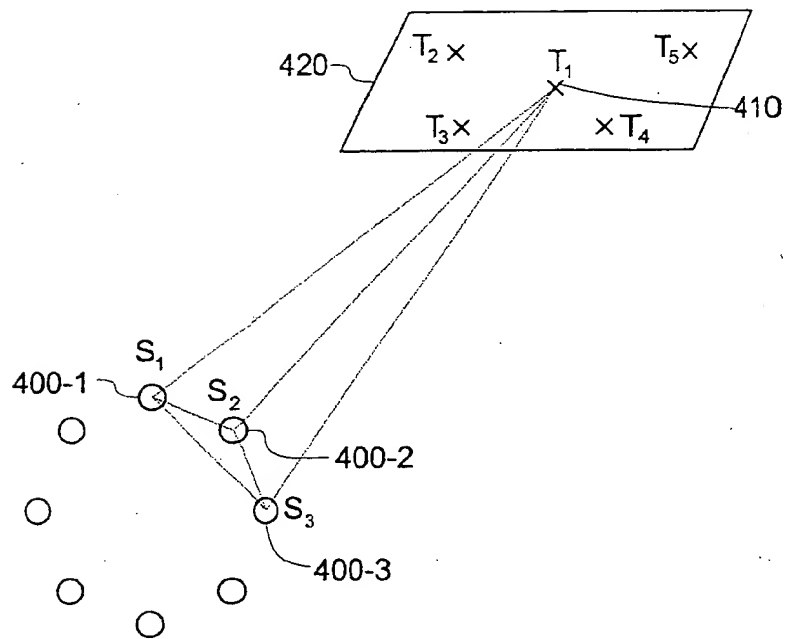


FIG. 4

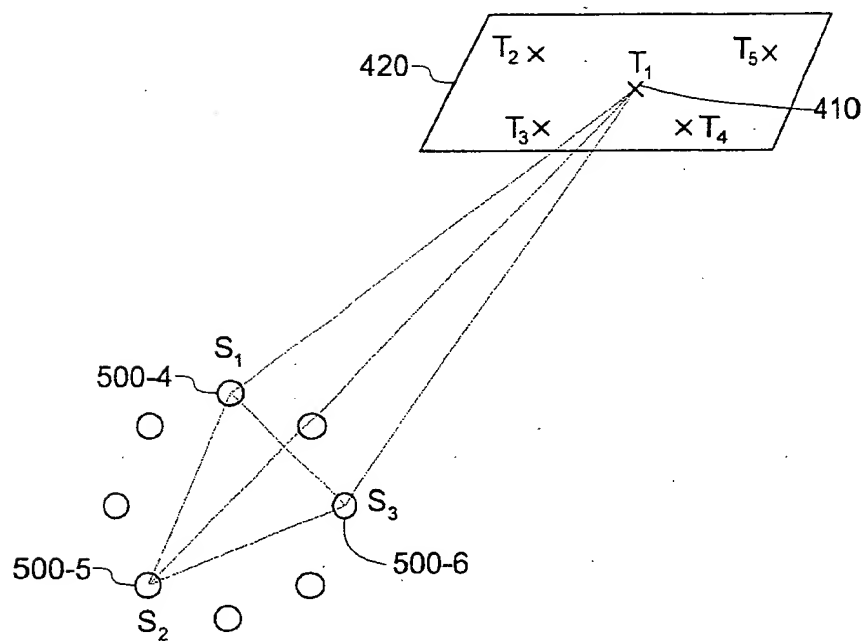


FIG. 5

4/5

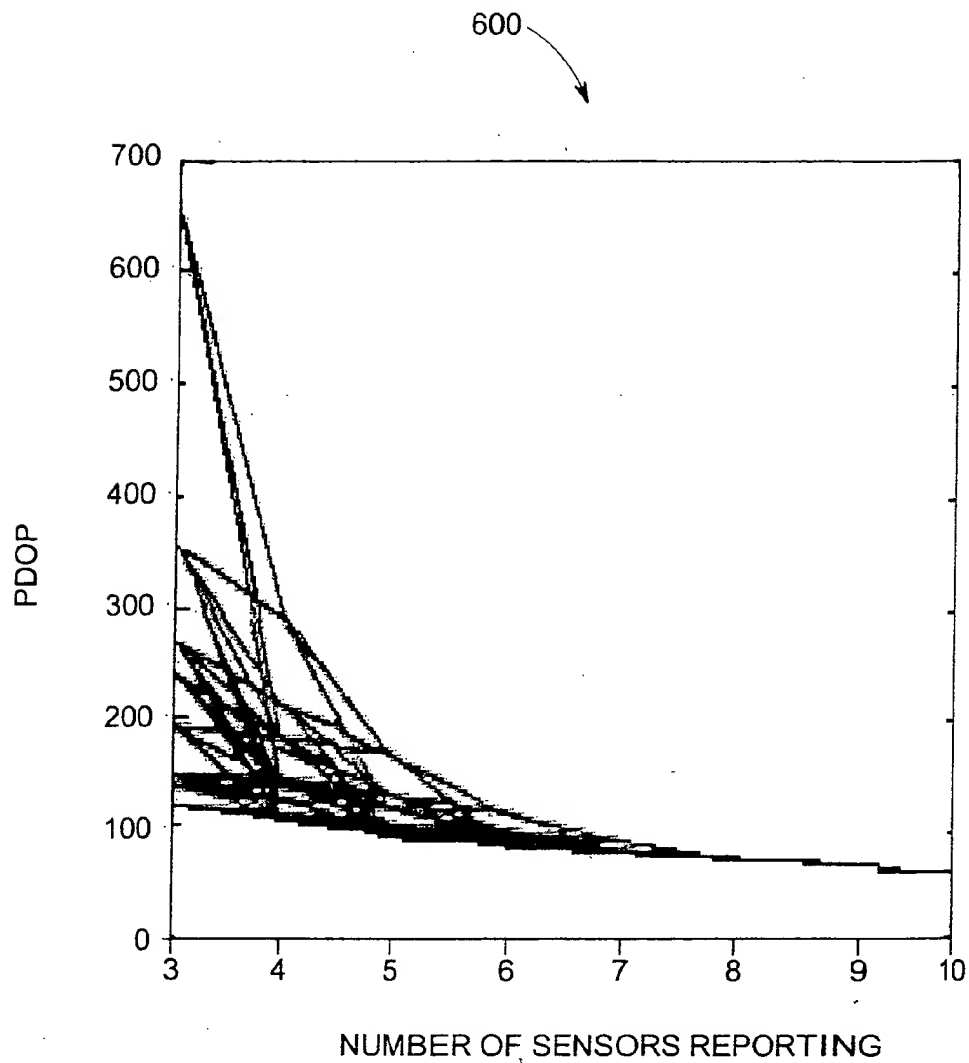


FIG.6

5/5

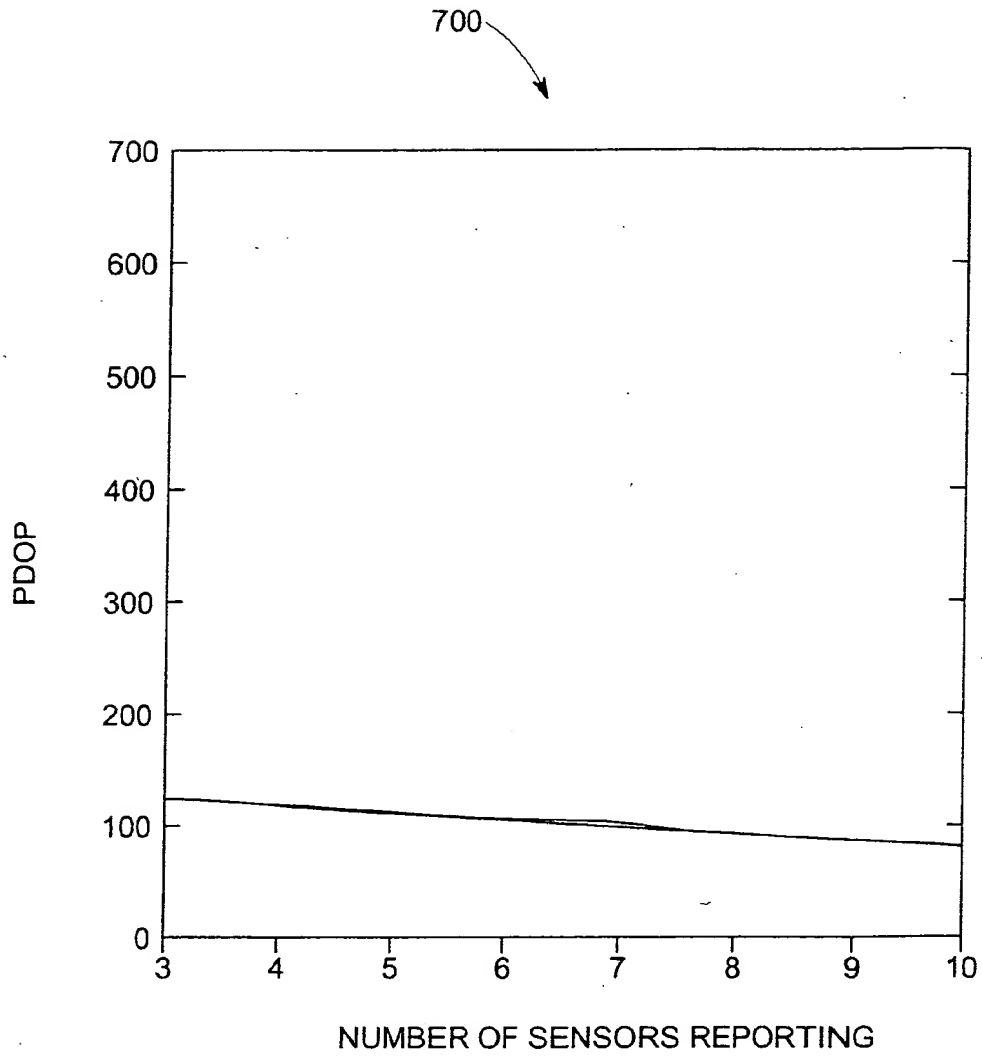


FIG.7